Bitcoin And Cryptocurrency Trading For Beginners 2021

Basic Definitions, Crypto Exchanges, Indicator, And Practical Trading Tips

Warren Larsen

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INTRODUCTION

1

In recent years, there has been a real revolution in the digital world: cryptocurrencies. The history of cryptocurrencies is relatively short, as the origins date back only to the second half of the 1990s. Already in 1998, what was called "B-Money" was published by Wi Dai: an anonymous and distributed electronic money system. Subsequently, Nick Szabo created "Bit Gold". Just like Bitcoin and other cryptocurrencies that would follow the technology, Bit Gold was an electronic cryptocurrency system that required users to complete the proof of work scheme. However, it was still the dawn of cryptocurrencies. In 2008, the first decentralized cryptocurrency was created: Bitcoin (ForexItalia24, 2017). Bitcoin is an online communication protocol that facilitates the use of a virtual currency, including electronic payments. Since its inception in 2009 by a group of anonymous developers known as Satoshi Nakamoto, Bitcoin has executed over 300 million transactions and has seen dramatic growth. This development has interested and subsequently attracted the attention of many people, becoming opportunities for huge profits. These are the conditions that made Bitcoin famous and that allowed the evolution of the entire system. Cryptocurrencies have further acquired a viral component by introducing a sort of "gold hunt" thanks to their diffusion in social networks and the most important media. There are many American companies that

exploiting this virality, giving rise to a singular phenomenon. Many of these by changing their name, adding a term related to the world of cryptocurrencies to it, perceived an enormous growth in their listing on the stock exchange. Famous is the case of the American tea company which by transforming the company's name from "The Long Island Iced Tea" to "Long Blockchain Corp" perceived an instant growth of its shares equal to 200%.

Unlike the traditional stock market, this market is not yet regulated. There are no central entities or complicated financial systems, and the value of each currency is closely linked to supply and demand. This system has shown a high degree of volatility and non-stationary prices.

1.

WHAT IS BLOCKCHAIN?

The blockchain, quite simply, is nothing more than a distributed database. From Wikipedia, we get an easy to understand definition of what a database is: "a data archive structured in order to rationalize the management and updating of information, and to allow the carrying out of complex searches." So, by translating this definition into a language that is easily understood by everyone, we are talking about a virtual space in which it is possible to store all kinds of information.

However, we have said that a blockchain is not simply a database, but a distributed database. This means that a copy of the information stored in this database is kept on each of the computers that are part of the network. But if a blockchain is nothing more than a database, what makes this technology so revolutionary? Simple, what makes this technology so innovative is the fact that unlike any other database, the blockchain is substantially armored. Everyone knows that any IT infrastructure can be hacked, no matter how many security measures it may have. When a database is accessible through the web, it can be hacked.

We will understand better in the course of the next chapters why this infrastructure cannot be corrupted in any way; for now, let's just get familiar with the that is that a blockchain is basically a distributed and armored database. The fact, then, that this data archive is “distributed” allows us to begin to become familiar also with the concept of “decentralization.” Normally, the databases are "centralized;" that is, they are owned by a company or an institution that takes care of updating them, making them accessible to people who may need to consult them, and putting in place all security measures necessary not only to prevent information theft, but also to prevent the data stored on that infrastructure from being manipulated and corrupted.

However, since we have said that the blockchain is a distributed database, we understand that there is no "central" body that deals with doing all these things, but that all the computers on the network collectively participate in these processes. Simplifying a bit, we can say that there are three types of networks: the "centralized networks" (often also called "stars") in which data is transmitted from a central point to all users, the "decentralized networks" in where we begin to have central nodes that transmit information between them without a precise hierarchy, and the "distributed networks," in which all the nodes are in communication with each other without there being a defined hierarchy.

Understanding these first concepts, we already have a way to understand why blockchain technology is commonly considered the greatest technological innovation after the advent of the internet, because for the first time we have at our disposal a

perfectly secure database without the need for a central body to manage it and ensure its safety.

HOW BLOCKCHAIN WORKS

In the previous section, we explained that a blockchain is a distributed database. Here, we will try to explain how it works. To make it easier to understand everything, we need to give a concrete example of the most typical use case concerning this technology: the transfer of value (or money) from one user to another. To transfer money from one person to another, the method most of us are used to is wire transfers; what happens, very simply, is that each bank keeps registers in which it reports the total balance of each account holder and the movements made to and from that particular account.

When I make a transfer (let's say € 100) from my account to that of another person my bank tracks the movement and marks on its register a transaction for an amount equal to -€ 100 from my account, then scales this sum from my total balance and sends the money to the bank of the recipient.

This, in turn, will do the same by marking (but this time on its register) a movement of + € 100 and adding it to the total balance of the current account holder beneficiary of the transfer. Exactly the same thing happens with a blockchain, except that the register does not hold it by a bank but (as we have illustrated in the previous chapter.) Instead, all the computers participating in

the network have a copy of this document; for example, when I send a Bitcoin (BTC) to a person, all the computers participating in the network mark the movement on the register and deduct 1 BTC from my account while, at the same time, add up the same amount for the benefit of the recipient. The first question that arises at this point concerns the fact that, since the register is not only shared by all the computers on the network but is also public (that is, it is accessible to everyone in consultation through special sites called "explorers"), anyone could have access to the handling of my account, thus damaging my privacy. In reality, the accounts (or "addresses") are not attributable to a name and a surname (i.e. to a natural person) but are "strings" consisting of a minimum of 26 to a maximum of 35 alphanumeric characters.

For this reason, bitcoin transactions are said to be anonymous. In reality, bitcoin is not anonymous, but "pseudo-anonymous." This means that although the addresses (those we call "current accounts" in the bank) are not registered in the name of real natural persons, it is still possible (though not easy) to follow the computer traces that these transactions leave on the web up to the user (i.e. the point where the user connected to the internet or the device with which he is connected) and thus define the identity of the natural person who controls that particular address.

Let's go back to our money transfer and introduce another relevant difference compared to what happens in the banking system; while when I move my money through a bank it immediately traces

each transaction and does the same with any other movement, in a blockchain the operations made by the various users are "merged" and inserted into blocks. To understand what a block is, we can imagine it as a box that contains the information (sender address, amount handled, recipient address) relating to all transactions "ordered" by users in the unit of time. With Bitcoin, for example, a block is generated every 10 minutes.

Blockchains are very similar to taking inventory of physical goods. When we do an inventory, all we do is take all the goods we have in stock, put them inside some boxes (numbered in ascending order), recording the contents of each individual box on a register. By carefully ordering the different boxes, once the inventory is finished, we will also have a paper "map" that illustrates where each single item is located in the warehouse. If we imagine the inventory of a restaurant that is closing its business, for example, we find all the kitchen utensils (knives, cutlery, plates, pots, glasses, etc.), stored in a warehouse and placed inside boxes. Since the boxes are numbered and I have recorded the contents of each box in the register, whenever I need, for example, the colander, consulting the register I could know its exact location. A blockchain, therefore, can be thought of as the inventory of all transactions Made. In practice, it is nothing more than a huge register that records the trace of all the blocks executed by the network since its birth.

As you read this text, for example, the network is processing a new block and adds it to the register of all blocks processed over time. The term “blockchain” translated into Italian means in fact “chain of blocks” and gives a good idea of how this whole process works; each block registered on the blockchain is linked (like the link of a chain) to the previous one.

This aspect is fundamental to understand why this technology is so reliable. If an attacker tried to manipulate the information contained in one of the blocks already processed by the network, this modification would cause a series of chain anomalies on all the blocks. The other computers on the network, finding themselves dealing with a document different from the one they had at their disposal, would be able to define the malevolent nature of the operation, thus blocking it instantly. The computers that are part of the network, however, do not limit themselves to transcribing the transactions present within a block on the blockchain; they also validate them. When the block is validated by the network it can no longer be modified. The blockchain, therefore, is not only an armored and distributed register (or database,) but it is also immutable.

Let's stop for a moment to summarize the concepts expressed up to now. When a user wants to transfer money to another user, what he does is send the sum from his address to that of the recipient. The information of this single transaction is entered inside a block together with the information relating to all the transactions ordered in the last ten minutes. The network then takes charge of the block, processes it, validates it, and transcribes it on the blockchain.

From that moment, the information contained in the block becomes immutable and can no longer be modified. Easy, right? Well, in the next we will illustrate how the network validates and processes the blocks, and we will have the opportunity to understand why the nodes that are part of this network cannot in any way manipulate the information contained in the block that they are processing. In other words, we will define who the miners are, what kind of role they have, and why they are so important in the functioning of a blockchain.

2.

WHAT ARE CRYPTOCURRENCIES?

After defining what a blockchain is, how it differs from DLT technology, how the validation process of a block works, and what some of the most common consensus protocols that represent the heart of any distributed database consist of, let's move on to more strictly than cryptocurrencies. However, we will try to do so not only from a purely technical point of view, but also from a philosophical point of view, questioning ourselves on concepts such as “value” and “money.”

Let's establish that the definition of cryptocurrency is not something to be taken for granted; although Bitcoin has existed for ten years, and has given life to a real ecosystem around it, we have not yet been able to find a commonly shared definition of what a cryptocurrency is.

Just take a tour on the web to check how each of the protagonists of this world (the major developers, university professors, CEOs of companies operating in this sector, etc.) has had the opportunity over time to provide their own personal definition of this word, without the emergence of the one capable of making everyone agree.

Consequently, what I will do is provide my definition of what a cryptocurrency is, taking care however to warn the reader that what will follow is not teh singular definition of what cryptocurrencies are. Therefore, after a few years of reflection, I came to define a cryptocurrency as "a unit of data whose origin it is possible to establish with certainty, who owns it, and to which it is possible to attribute a value conventionally accepted by anyone."

To understand well what we are talking about, it will be necessary to give concrete examples; we have already mentioned how it is possible to follow every single BTC transaction through websites (explorers.) If we search for “explorer bitcoin” on Google, one of the first results is the “blockchain.com” site, which shows us a screen which lists the succession of the last validated blocks. Clicking on any block, therefore, we can view information such as the number of

transactions it contains, the progressive number that identifies the block (i.e. the height of the block itself), and the total value of the transactions it contains.

What interests us to note is that each block has a weight, the maximum weight, but it would be better to speak of "maximum size." Generally speaking, a BTC block (just to give an example) is 1MB. Within each block, we find the data relating to each transaction. Among the data available to us, we have the block within which it was validated, the number of confirmations received, the timestamp, the weight, the size and much more.

Why am I writing all this? Because on the blockchain we go to archive data, and that data can be anything. It can be for example a medical record of a patient, the right of ownership in a car, or whatever else we can think of. Currently, if we take the example of BTC, the data we choose to record in the blockchain is transactions..

A blockchain, in other words, is nothing else a book that tells a story. More precisely, the story it tells is that of the chronological succession of all the transactions processed and validated by the network. If I wanted to create a register of registered cars using a blockchain to which a cryptocurrency was linked, I could easily do it today. In practice, we would have a coin that corresponds to the ownership of a specific car, and on that coin we would write all the car's data (make, model, year of registration, etc.) and the owner's data (year of purchase, purchase price, name, etc). The day in which the car was sold to a new owner, he would also receive the relative cryptocurrency on which his would be added.

What we need to do, therefore, is to stop imagining a cryptocurrency as a dollar bill, and start imagining it instead as a small box; in that small box you can put any type of information, and at that point you can also exchange the information with a third party and attribute a value to it. When we talk about BTC, each coin is like a small box that contains information, so the question at this point is: what is the information we are trading when we trade a BTC? The information we exchange is the most essential of all, the right of ownership over that box that we exchanged. When I send a Bitcoin from my address to another person's, the information that is stored on the blockchain is that that coin (not another, not any of those in circulation, but exactly that coin) ceases to be owned by my address and becomes the property of a new address. How can we be sure of the unique ownership of the coin? Because we have its private key. We will deal with this concept, and others equally important, in the following chapters.

3.

HISTORY OF BITCOIN

In the previous chapter, we had the opportunity to hint at how, over the years, Bitcoin has begun to build a sort of "standard" comparable to that of gold, so that every time the economy of a state begins to show signs of weakness we can see an increase in cryptocurrency trading volumes in that particular country. This is a trait that has characterized Bitcoin since its inception.

It was back in 2008 when an anonymous actor made his appearance, proposing a global currency supported by a P2P network in conjunction. In a sense, this was in response to the

banking scandals that earned the honor of the news by following one after another and essentially representing the beginning of the great economic crisis that would infect the economies of the rest of the world. This person, whose true identity is still unknown over ten years later, will go down in history under the pseudonym of Satoshi Nakamoto.

More precisely, Satoshi makes his appearance in November 2008 by publishing on "The Cryptography mailing list" (on the site "Metzdowd.Com") a document concerning the consent protocol that will allow the operation of Bitcoin; a few months later, the first version of the software would be distributed and other developers start working on it. Just over a year after the birth of Bitcoin (in 2010) Satoshi withdraws from the community, his last public message dates back to 2011 and serves to communicate the handover with Gavin Andresen.

This is perhaps the strangest thing about this technology, that the person who basically invented it was able not only to remain anonymous all this time, but even decided to completely exit the scene. Within less than two years after giving life to his creation, Satoshi Nakamoto vanished, but his legacy will live in every university course that disussed cryptocurrency and blockchains.

The important thing to understand, when we think of Satoshi, is that we are talking about one of the brightest minds of this century. The math that supports Bitcoin and allows it to work is commonly considered so advanced that many have come to argue that behind the pseudonym of Satoshi Nakamoto there is not a single person but a team of hackers with very solid skills.

In the Netflix documentary Banking on Bitcoin (2016) we can find one of the most plausible reconstructions of how things went. The creation of bitcoin should have been one of the major exponents of the cypherpunk movement, so inevitably one or more between Nick Szabo, Hal Finney, Adam Back and Wei Dai. The cypherpunk, which probably almost no one has ever heard of in our country, if not perhaps a few "enthusiasts", was a countercultural movement made up informally of people interested in privacy which aimed to achieve individual freedom through the use of encryption. The ideological approach that these groups have always had has been of a libertarian character, oscillating between social anarchism, anarcho-individualism and anarcho-capitalism.

Even today, in 2018, the anarchist component in the world of cryptocurrencies is clearly recognizable, despite the fact that in this world there are also large banks, national institutions, entrepreneurs, and ordinary people who in any way can be defined except anarchists. This technology, in any case, has its roots in a cultural humus (the anarchist one) which still represents the common thread through more than a decade of technological development. But let's go back to Satoshi's identity, “Banking on Bitcoin” reconstructs who it may be that seems to me (and many others) to be very likely; behind the pseudonym of Satoshi Nakamoto there would be Hal Finney (a leading exponent of cypherpunk made in the USA), who fell ill with ALS in 2011 and died in 2014 at the age of 58.

There was also a time when Australian entrepreneur Craig Steven Wright seemed to be the real Satoshi, but soon this too was discarded. Some might say at this point that obviously Satoshi has now disappeared, having become rich, will have converted all his Bitcoins into dollars and will be spending the rest of his days sipping Cuba libre in the Maldives; in reality, the addresses owned by Satoshi are known, and these addresses are blocked by hundreds of Bitcoins that have not been moved for years. This is what leads us to suspect that Satoshi may be Hal Finney himself (who passed away in 2014), because there was a moment, when Bitcoin prices went up to $20,000, in which even only 100BTC had reached a value of 2 million dollars (and more than 100BTC are blocked on Satoshi's addresses overall); the fact that all this money has been stuck on their respective addresses all these years without ever being moved suggests the idea that the owner of those Bitcoins (i.e. Satoshi) simply passed away.

Given that we will never know the true identity of Satoshi Nakamoto (whose gender is not even known for certain,) BTC already appears to have outlived its inventor; and all this despite having experienced very bloody moments in the course of its young life. As I write this text, for example, BTChas lost about 80% of its value compared to the last peaks of January 2018, and this leads many detractors to argue that its end has come. However, what the detractors do not say is that BTC has already dipped several times over the course of its history, showing each time that it has broad enough shoulders to come out stronger than before. The first major collapse in BTChistory was already in 2011 when, after a mad rush that in a few months swelled the price from $0.92 to the exorbitant figure of $32 per coin, Bitcoin prices collapsed again around $2. “Now it's over” the experts said, “Bitcoin is dead” the newspapers

ruled; but things did not go like this. The following year (2012), BTC immediately offered the first signs of strength, returning to around $7. Already in mid-January, however, a new slap pushed it down by almost 40%; however, it seemed to be a trivial correction, since the summer of the same year, prices returned to close to $15. When it seemed that Bitcoin would never recover its historical peak of 2011, the price exploded again, marking, in the spring of 2013, a new high close to $ 50. In the following months, BTC would resume its run with new highs close to $100, and would hit a high in April 2013, touching $270.

"Bitcoin is unstoppable, it will be worth thousands of dollars," the most enthusiastic said, but instead BTC returned down, only a few days after reaching the new high, reaching $67 in the same month of April. At this point, prices entered a lateral phase, remaining fairly stable around $120 until the end of the year when a new bull run started that dragged the price up to $1100. Wow! It is a pity that within a few weeks the price will return to plummet, this time settling at $500 and remaining in a kind of sideways for the next 18 months. Thus we arrive at 2014, another annus horribilis for our cryptocurrency which, in the meantime, has climbed to almost touch the $900 level.

The reaction of the markets to all this is, understandably, a kind of massacre, the price of BTC plunged again and stood at $400, where it remained stationary for another couple of years. We come therefore to more recent times, when finally in January 2017 BTC returned to break the $1000 wall and begin a race that would bring it, between December 2017 and January 2018, to touch the new all-time high around $20,000. Since that moment, BTC has re-entered a new bearish phase, reaching lows of around $3,000 and giving a new voice to the detractors who once again rushed to affirm that

"this time is the very end"; who among the detractors and supporters will have the last word is still unclear.

4

EXCHANGE CRYPTOCURRENCIES

With the birth of Bitcoin, the need arose to exchange the new cryptocurrency with fiat currency. From the beginning, those who wanted to understand what this new currency consisted of had only two ways to do it: either to get hold of some Bitcoin by mining it (which was initially much easier than it is today,) or by buying it from someone who already owned it.

Over time, some traders began to accept this new form of payment; they too needed to convert that profit made in BTC into legal tender currency. Even the most avid supporters, those who have kept their BTC longer, have also had the opportunity to spend them over time.

Today, spending our cryptocurrencies has become extremely easy thanks to cards, which allow us to instantly convert our cryptocurrencies by withdrawing cash at any ATM, but we have come to this over time, through an evolution that has lasted years. As anyone can imagine, initially there was not even a real market as there is today; at the beginning, there was only BTC, and the simplest way to convert it into fiat currency was to physically exchange it for cash. Obviously, bartering was not a very rational way to manage it, so soon the first exchange

platforms (exchanges) were born, which today allow us to easily exchange even large volumes of cryptocurrencies.

In the next section we will discuss how it is possible to exchange cryptocurrencies between individuals, about the platforms on the internet that allow you to do so, and about some particular sites that allow us to exchange even large amounts of cryptocurrencies with current currency, legally guaranteeing total security despite the fact that we find ourselves working with complete strangers. All this, ultimately, is part of what until now we have called the "cryptocurrency ecosystem," a layered and complex reality of services that allow users to manage their cryptocurrency, to exchange it and to use it to buy goods and services.

LOCALBITCOIN

If from the first moment, it seemed obvious that the easiest way to exchange cryptocurrencies was in person, and that to build a "market" of this type (therefore based on a sort of barter) it was necessary to resort to the web. The very success of the internet, not surprisingly, had also passed through all those services that allow the sale of goods or services between individuals.

With BTC, things went exactly like this; even today there is a site called Localbitcoins(online since 2012) which connects those who buy and those who sell cryptocurrencies locally. Through Localbitcoins (and other similar sites), however, supply and

demand are limited to meeting; that is, they have a first approach, while the real currency exchange is managed in person, typically in cash. In large cities, it is not difficult to find someone who also wants to buy significant amounts of cryptocurrencies by paying for them with cash, but it is no less difficult to suffer scam attempts in this way. In fact, there are not a few people who, for having exchanged their cryptocurrencies in this way, found themselves with thousand euros of counterfeit money.

When proceeding with this type of exchange, therefore, it is always preferable to have the due precautions and never take anything for granted; the risk of being scammed must always be considered. Although it may seem unsafe, this type of exchange is still very much in vogue today, especially since the job offer also moves through these channels. In fact, there are many people around the world who have cryptocurrency to spend and would like to invest it in their project.

Obviously, it is not common to find advertisements on these platforms to be a baker, but there are numerous ones related to translation jobs, the creation of websites and smartphone applications, as well as a very large number of job advertisements related to the blockchain (issue a token, create a smart contract, write articles for specialized sites, etc). All this testifies to the revolutionary door of this technology; around the blockchain was born much more than a simple market. A real economy was born with lots of jobs, university courses with secure professional outlets, and projects financed for millions of euros.

The existence of sites like Localbitcoins shows us how the "crypto-economy," contrary to what its detractors claim, is not based on nothing, but rests instead on concrete foundations and it is supported at different levels. It is frankly impossible to think that people who have already come into contact with this technology, who have understood how it works, and who already use it regularly can stop doing it in the next ten years, while it is not difficult to imagine that in a similar period of time more and more people may decide to start using any of the hundreds of cryptocurrencies currently available on the market.

THE ESCROWS

If in any big city in the world finding someone who wants to exchange cryptocurrencies is all in all quite simple, in small towns things are not as easy. Despite this I myself, who also live in a small town, was surprised to find a person less than 2km from me who wanted to sell 3BTC in 2016.

To be honest, that person was also the only one in the whole province, so it was clearly a coincidence that he was right near my house. To all this we must add that in many countries banks are, understandably, reluctant to favor the movement of money towards cryptocurrencies and tend to block incoming and outgoing transfers connected to the accounts of some large exchange platforms. So how can you exchange cryptocurrencies even for significant amounts through the internet, without risking taking the proverbial package? Simple, we use special services called "escrow". On the internet, there are dozens of sites that

allow you to do exactly this; the system is as simple as it is ingenious.

These sites are nothing more than a catalog of third parties who take on the responsibility of managing the transaction on behalf of all the parties involved; each of these users has a rating and requires a fee to carry out such a delicate task. The commission required by each escrow varies according to the rating that the user has accumulated, as the rating reflects the user's reliability.

With this system, therefore, scams become extremely rare and difficult. Escrows tend not to act in bad faith, since they are paid for their reliability, and their reputation is their livelihood. This system, of course, is not exactly the cheapest of all, and probably not even the most comfortable way to exchange fiat currency for cryptocurrencies. However, it has been used by thousands of users who have testified to its quality and effectiveness for years.

EXCHANGE PLATFORMS

There are many reasons why you may want to trade cryptocurrencies (with other cryptocurrencies or with fiat currency,) and there are also many different ways to do it; what we need to make clear is that there is a right way to satisfy every different need. Not understanding this simple thing, when dealing with cryptocurrencies, can lead to unpleasant inconveniences; a very common mistake, for example, is that the function of an exchange platform (or exchange if you prefer) is to allow the

conversion of different cryptocurrencies into other currencies or fiat currency.

In reality, this type of service was created to allow trading and not to simply allow you to change your currencies. For example, imagine a lawyer who agrees to be paid also in cryptocurrency; since only a few clients decide to pay him this way, the lawyer tends not to spend that money and eventually accumulates a tidy sum on his BTC address.

At some point, our lawyer will want to spend this sum, and perhaps instead of spending his coins as they are he decides that the time has come to convert them into euros; what is the most comfortable way to do it? Well, just open an account on one of the largest and most reliable trading platforms on the market and transfer the BTCs to their address, at which point you place a sell order in euros and that's it, right? Well, things won't necessarily turn out to be that simple. The moment our lawyer tries to transfer the sum just converted into euros to his current account, the account could be frozen, simply because he didn’t read the compliance policy.

Obviously not all exchanges adhere to this type of protocol. It simply depends on the different rules that different countries apply to manage this type of market. In Italy, for example, opening an exchange requires compliance with very stringent rules and is therefore not a simple (and even less economical) activity to start.

This set of rules (compliance,) provides, among other things, the identification of users (which is why today almost all platforms require the sending of user documents) and that the funds deposited are used specifically for trading. Our lawyer was wrong in thinking he could just exchange his BTC. Since his behavior is considered improper and expressly prohibited by the regulation of the platform, our lawyer found his account frozen.

This does not mean that it is not possible to use an exchange platform to change our BTC?That of the lawyer is just one example of the risks that a lazy person takes when not doing things with due attention, but there are numerous exchanges on the market, even among the largest, which do not have such strict rules.

The world of cryptocurrencies is refractory to the regulations imposed from above, hence the fact that users (including traders themselves) are forced to sacrifice their privacy in order to legitimately operate with their coins (since they have to submit their documents to exchange platforms to open an account.) It's not exactly one of the most popular norms within the community; at a certain point, users on social networks, forums, and blogs began to tell each other that it would not be a bad idea to build a decentralized exchange.

After all, what else is an exchange platform but an updated register of all the exchanges made? Exactly the type of data that can be processed through a blockchain, as long as there is a decentralized network of nodes that guarantees its functioning. At this point anyone can guess why at this very moment on the

market there are at least a dozen platforms (with related native cryptocurrencies in tow) that offer exactly this service; users can transfer their coins to these platforms and do their own trading (or just simply change their coins) just like they currently do with large centralized exchanges. Where is the difference? That in this way they can do it anonymously and, in many cases, without paying commissions for every operation they make.

A recent innovation has also contributed to making this even easier to achieve, known as the "atomic swap," which allows users to use a smart contract to process an exchange of currencies between coins belonging to different chains. In this exchange, the smart contract essentially acts as a real escrow (thus protecting both parties involved,) making sure to send the coins to the relevant valid addresses. Let's imagine that a user wants to buy ETH using their BTC; a smart contract will take its BTC, it will search for one or more users capable of satisfying the request at the price set by the user, and as soon as this is possible it will self-execute by paying the respective parts to the addresses that each of them will have previously established.

Decentralized exchanges are one of the best examples of the advantages of disintermediation which, inevitably, also coincides with a drop in the costs incurred by the end user. The reduction of costs, then, becomes an extraordinary incentive to convince more and more users to abandon centralized models in favor of decentralized ones and that is why, at least in the long term, all this new technology based on disintermediation and decentralization seems inexorably destined to win over the

(centralized) models that currently regulate some of the main aspects of our social life.

5.

INTRODUCTION TO CRYPTOCURRENCY TRADING

Inserting a chapter dedicated to trading in a text that deals with blockchain and cryptocurrencies is inevitable; one of the advantages of this technology is that all those who discover it immediately feel the need to begin to understand how the market works. The reasons that push a person to start trading cryptocurrencies can vary. There are those who do it out of pure curiosity, to better understand the same technology, or simply because they see the possibility of earning money. In any case, it is extremely common that those who

approach cryptocurrencies very often decide to open a trading account on an exchange platform.

This has allowed many people to acquire the first rudiments of economic-financial education: a form of education that is almost completely absent in our country and which would be greatly needed. The "quantum" leap that people who start using BTC and other cryptocurrencies make is that since they have full control of their money, they can also freely invest it. And for the rest, as I like to say, "Even a monkey can make a profit by trading." What does this activity consist of? I think one word is enough to say it and that word is "rules." Trading is a system of rules.

What a trader does is take advantage of these value fluctuations to make a profit, buy BTC at a low price (for example at $100) and resell at a higher price (for example at $120); the difference between the selling price and the buying price represents the profit (or loss) realized with that single operation.

In cryptocurrency trading, we can observe two big trends: that of traders who always operate in pairs with a fiat currency (for example, they buy BTC to earn dollars,) and those who trade in cryptocurrencies (they buy any altcoin to earn BTC.) Whoever operates in the first way (i.e. accumulates dollars) is a person who is probably convinced that the supremacy of fiat currencies will never be scratched by cryptocurrencies, and consequently uses price changes to earn more legal tender currency. Those who instead operates in the second way (i.e. accumulates Bitcoin) is convinced that, regardless of what happens during bearish cycles, BTC is destined in the long term to continue to increase its value, always hitting new peaks.

The most popular trading strategies include:

Scalping: means that the trader opens and closes numerous transactions during the same day, aiming to make a profit in the shortest possible time by taking advantage of even the smallest price changes.

Day trading: in this case the trader tends to make fewer operations, rarely exceeding two or three in the same day, and as a basic rule each operation is opened and closed strictly within 24 hours.

Swing trading: those who do this type of trading reduce the number of transactions even more compared to the day trader, and as a basic rule the duration of the trade is extended from one day (maximum duration of day trading) up to ten days (indicatively the maximum time frame within which the single transaction should be closed.)

Cassettista: operates more according to an investment logic than (as in other cases) in a purely speculative logic. Between when the drawer opens an operation and when he closes it, months can easily pass; moreover, it is difficult for this type of operator to manage more than two or three investments at the same time.

In general, a good trader knows how to adapt his operations to all four trading styles based on the market trend; therefore depending on the moment the trader decides to adopt one style instead of another, the same trader who today does scalping could

then suddenly adopt a swing trading logic, and then go back to scalping once the previous operations are closed.

As we said, trading is basically a system of rules, once these rules are set correctly you inevitably start making a profit; this does not mean that you will easily become a billionaire, but simply that you will be able to make your savings relatively easily. The difficult thing, when we talk about trading, is not even learning the technique (which after all is accessible to anyone), but having a full control of one's psychology.

Each trader is constantly exposed to a great psychological pressure that induces him, regardless of the rules he has given himself, to sell or buy in an unreasonable way; the point is that no matter how good you are, all traders are trading at a loss. A good trader simply accumulates more profit than loss. The psychological reactions of each operator can be different and can change, as well as from person to person, from situation to situation; therefore there are no rules valid for everyone to manage the most demanding aspect (which is the psychological dimension) of the trading activity.

In the next chapters, therefore, in addition to describing the functioning of some fundamental tools in the activity of each trader, we will also try to make more general reflections on this type of profession to offer each reader a broad point of view and a sufficient basis.

HOW TO READ THE GRAPHS

Finding yourself trading when you discover cryptocurrencies is a very common thing, and the fact that those who approach this type of activity do so thinking of becoming immensely rich in record time is, unfortunately, the same. Even if anyone can learn to exploit the market cycles to profit, it is not certain that all those who engage in this activity will reach the goal. As mentioned before, trading is a system of rules, but since we impose these rules on ourselves, many tend to infringe on them. In any case, the first rule that every trader must follow is "never invest more than you are willing to lose."

The first thing we must do is to learn to read stock market charts which, in jargon, are called "Japanese candlestick charts." Obviously the price trend can also be graphically rendered by a line graph, but the candlestick charts give us much more information than we could obtain by observing a line.

The reason why these graphs are called this is quite intuitive: the graphic signs (those colored red and green) resemble candles. Each candle on the chart expresses the price trend in the unit of time defined by the user. Precisely for this reason we hear about charts for one hour, four hours, one day, one week, and so on; this is the length of time covered by one candle.

Now, let's imagine reading a 1D (one day) chart; we know that each candle graphically represents what happened over the last

24h. Therefore, if the candle is colored red this means that in the twenty-four hours the price has dropped, on the contrary if the candle is colored green it means that the price has gone up.

The height of the candle represents the chane in unit price. When we read a red candle (which signals a price drop in the unit of time) the upper border indicates the opening price, and the lower one the closing price of the session, and vice versa for a green candle.

In some cases, we can observe candles that are not colored and substantially resemble crosses. This type of candle indicates that the opening price was substantially identical to the closing price; the edges of these crosses (directed upwards or downwards) graphically represent the price changes (maximum and minimum) that occurred during the session.

Let's take some practical examples and imagine that the price of 1BTC after starting from a price of $10 at the opening touched a maximum of $15 and then closed the session at $12. How is all this represented by the candle? Simple, in the meantime we will have a green candle (because the price has risen), similar to a rectangle whose lower edge is positioned at $10 (the opening) and the upper margin is positioned at $12 (the close); from the upper margin. Then, we will see starting a straight line ("shadow") that reaches $15.

As another example, let's imagine that the opening price is $20 and the closing price is $17, with the day's low at $15 and the

day's high at $22; in this case the candle will be red (session at a loss), the upper margin (opening price) will be positioned at $20, from here the upper shadow (the straight line) will start, which represents the high of the day and will touch share $22, while the lower margin of the candle (closing price) will settle at $17, the level from which the lower shadow (always another straight line) will start and will reach the low of the day at $15.

For the last example, a session that opens and closes at $17, corresponding to the minimum of the day and with a maximum peak reached of $20. In this case the candle will look like a cross; it will not have any color because the opening and closing price coincide, and there will be no lower shadow because the day's low has never gone below the opening, but there will be a long upper shadow that it will extend up to $20.

Everything that we have illustrated in words up to now can be found summarized in the image below that will allow you to better understand all the new terminology we have introduced.

THE TECHNICAL ANALYSIS

In these few chapters we have discussed several fundamental concepts for trading, how to read a candlestick chart, and established that trading means creating your own system of rules. This last aspect is fundamental, because without an effective system of rules, we will never be able to trade effectively.

The purpose of these rules is not just to allow you to make a profit, but rather to allow the trader to ease the psychological pressure to which he will inevitably be exposed until the moment he closes the operation, and to establish instead how to realize the profit each operator is based on what is essentially a real "collection of signals".

The first question that every person inevitably asks themselves when they start trading is “what moves the price of a cryptocurrency?” Finding a good answer to this question already means you have taken the first step to becoming a good trader. The price is mainly driven by two factors: the greed of the market and the news breaking into the market. These two factors, taken together, generate the price movements that allow us to make a profit.

When we begin to operate on a particular market, any news concerning it can trigger a bullish or bearish reaction in the price trend. There is news, such as the possibility of a hard fork or the release of a new version of the platform, which inevitably

trigger the rise in prices. Other news, however, can do the exact opposite and sink the value of a coin. For example, the price of a crypto may fall if the news spreads that the official wallet of a certain currency is defective or that a certain cryptocurrency is about to be excluded (delisted) from a large platform.

If understanding how and why news moves the market is easy enough, it is more difficult to understand the way in which the greed of operators causes price fluctuations. First of all, what we have to understand is that the price trend is never linear, but more resembles the waves as seen in the above candle charts.

When we begin to imagine the price trend as if it were a wave, we begin to frame two different trends: one short-term in which the price moves between minimums and maximums within what is called a "channel," and at the same time we find a second trend in progress, more in the long term, which sees the price destined to increase or decrease.

There are obviously several tools available to traders to recognize these trends in the price (some of which we will get to know later,) but in principle the dynamics we are witnessing are always the same. Since all traders pursue the same goal (making a profit) and all read the same chart at the same time, when certain conditions occur all traders will click en masse to take advantage of the opportunity and here, as mentioned, greed of the market ends up moving the price.

However, this is also true on the contrary; the fears of the market can cause a wave of sales that can lead the individual trader to suffer significant losses. The ability to read the market trends through the price trend on a chart, and to recognize the moments of reversal (both short and long term) in the main trend, is all classified as "technical analysis." What the trader does, in other words, is to use the tools at his disposal to define the trend of the trend and try to make a profit on the basis of technical analysis.

The bad thing about technical analysis is that it is not an exact science, but more of a statistical calculation. None of the data we get from reading the charts ever gives us guarantees; although there are more relevant (and more reliable) signals than others, there are no 100% safe trading signals. Moreover, every good trader naturally oscillates between a speculative approach and a more moderate one based on investment. Consequently, for a complete operation on the market, technical analysis is not sufficient, but it is always necessary.

All the concepts we are exposing exist on every type of market; the graphs read the same way both on the forex and the cryptocurrency market, the technical analysis is the same whether you are investing in stocks or buying coins, and fundamental analysis is a concept that always exists.

When we buy shares, for example, the fundamental analysis consists in reading the financial statements of the company we are going to invest in; in the cryptocurrency market, the fundamental analysis is done by collecting information of a

different nature, as we will see better in one of the next chapters. For now, let's focus on knowing some elementary tools that every trader normally uses in his daily practice to search for trading signals that allow him to make a profit.

SUPPORTS AND RESISTANCES

We have said that the price moves like a wave within a long-term trend that can be bullish or bearish ; quite simply in a bull market the price tends to always touch new peaks, while in a bear market it tends to always touch new lows.

When in the middle of a well-defined trend, the price fails to touch a new peak (minimum or maximum.) This is a first sign of a weakening of the trend, and indicates that we may be close to a reversal of the main trend.

If we then graphically combine the maximum peaks reached by the price with a straight line, and do the same for the minimum peaks, we graphically obtain important levels at the level of technical analysis; these are called support (the line that joins the minimum peaks) and resistance (the line that joins the maximum peaks.)

Therefore, when the price is near a support, this represents a difficult level to break downwards, and it is easy to say that (in the short-term trend) the price is going to rebound. In the same way, when the price is near the resistance, is easy for the price to begin to slide down, seeking the first useful support again. However, we must always consider that the more times these levels are tested, the less likely it becomes that they can withstand the next wave. When the price starts beating against a

resistance, sooner or later it is likely to be able to break it and therefore start to rise.

In this dynamic, there are two relevant moments for a trader's activity: when the price is near those price levels that we have called supports and resistances, and when the price breaks these levels. Given that today there are financial instruments that allow you to make a profit even when the price is falling (short sale), it would be preferable for a novice trader to concentrate on making all upward operations and then later to integrate more advanced tools into their operations.

Our neophyte cryptotrader, who wants to make a profit with the upward variations in the price, has two ideal moments to open a position: precisely when the price is near a support and when the price breaks a resistance. Opening a position by counting on the rebound near the support is a strategy that often allows you to make a profit, but which presents greater risks since it is not said that the support will hold. Instead, opening the position when the resistance is broken upwards is a more moderate trading strategy which allows us to take fewer risks but offers us less profit opportunities.

In any case, despite how sophisticated our market analysis skills are, no one can really predict where the price is going. This is always true, even more so in a market like cryptocurrencies, subject to continuous manipulation. In fact, as the cryptocurrency market is often not very liquid, some operators with large financial capacities are in a position to be able to provoke speculative maneuvers that are referred to as "pump and dump."

They accumulate large quantities of coins at a certain price for weeks, and then suddenly inject enormous volumes of liquidity, causing a rise in prices that it will subsequently allow to resell to other operators at a profit.

After completing the speculative maneuver and painfully trimming the package to all the operators who had rushed to chase that sudden rise, the price of the currency (lacking the liquidity that had allowed the rise) falls back down.

Therefore, among the rules that should be given when trading cryptocurrencies, we have that of not operating on illiquid pairs (which generate a trading volume lower than a minimum that is commonly established around 20BTC per day) and that of investing on projects that you know well and in which you have great confidence (so you have to study the various platforms, carry out your fundamental analysis and carefully choose which ones you want to operate on.) Before moving on, let's use a simple image to fix what we just said; in the following chart, we clearly see that the price moves within a "channel" limited by two lines that respectively join the minimum peaks (the red support line, and the black resistance line.)

When at a certain point the price shows a first sign of weakness and does not show itself capable of going to test the resistance again (black line) here it tries to breathe for some time near the support; at this point, we witness a last attempt at a bullish sortie, then the price suddenly drops, breaks the level (already tested several times previously,) crosses the red line (the

support,) and enters a markedly bearish cycle in which at each new low one that is always lower than the previous one follows.

RELATIVE STRENGTH INDEX (RSI)

We have said that every trader uses, in his daily operations, a series of tools that help him to analyze the chart he is reading. These instruments can be divided into two broad categories: indicators (which freely replicate the price trend on the chart) and oscillators (which move in a pre-determined range of values.) These tools often give us very clear signals of what is happening to the price, and their correct interpretation is often what makes the difference between loss and profit.

The trading signals do not only come from reading the data we get from the indicators and oscillators, but also directly through the price chart by plotting ourselves the levels that represent the "supports" and "resistances." Since for each currency pair on which we operate we can change the unit of time (represented graphically by the candles,) we have a multiplicity of different signals depending on how we set the time frame. For example, if we are trading on the BTC-ETH pair, spending BTC to buy ETH.

Regardless of the modality we use to obtain the trading signal, in the meantime we must always start from the assumption that the signal is all the more solid the more the TF is set in an expanded manner; a chart with a one-week time frame, therefore, offers more solid signals than a chart with a one-hour time frame.

If I wanted to buy ETH spending BTC, what I would do would be to wait for a moment when a trading signal appears on the 1W chart, start observing the lower TF, then slowly narrow down the TF to find the optimal time to buy. To reduce the risk, therefore, we never rely on a single trading signal, but we go in search of what is called "convergence" of signals. If it is true that "many clues do not prove," it is also true that the more clues you have, the higher the chances of winning your bet. Because in a sense this is what we are doing; we are betting that the price will go up. Among all the tools used by traders, is there one that is simple to understand and that is commonly used and appreciated by the majority of the community? Yes, it's called RSI (relative strength index.)

It is an oscillator that moves continuously between a minimum (equal to zero) and a maximum (equal to 100) invented by John Welles Wilder (who illustrated its operation to the public in 1979 with the book "New Concepts in Technical Trading System") and whose purpose is to help the trader identify the points where the strength of the trend is running out; the mathematical formula would help us understand why certain indications are obtained from the RSI. In any case, this does not change the operation, so let's just say that the RSI, moving between a minimum of zero and a maximum of one hundred, reaches two bands in which the trader's attention increases: the 0-30 band (which is defined as oversold) and the 70-100 band (which is defined as overbought).

When the RSI crosses the oversold and overbought ranges, it means that the market is in a phase of "excess," in which traders

are essentially stubborn to sell and buying beyond reasonable. Unfortunately, to make a profit, it is not enough to rush to buy in the oversold ranges and sell in the overbought ranges, based on the strength of the current trend. The RSI can remain in "extreme" conditions (oversold or overbought) for long periods of time.

There are particular moments, however, in which anomalies are produced on the RSI if we compare the trend of the oscillator with what we read on the price chart. For example, when we see the price mark a low of $20, rise up to $23, and then return to mark a new low of $17, what we clearly read on the price chart is that by combining the two lows we obtain a descending line. In certain circumstances, however, it happens that in conjunction with the two lows on the price chart, the RSI marks two peaks which, once joined, form an ascending line (which moves upwards.)

This kind of anomaly is called "divergence," and is formed not only on the RSI but also on other types of oscillators and indicators (always in the same way.) There are basically two types of divergences: the bullish ones (which can be read by drawing a line that connects the minimum peaks) and the bearish ones (which can be read by drawing a line that connects the maximum peaks.)

Any kind of divergence we should notice between what we read on the price chart and what is expressed by the oscillator gives us a trading signal. In particular, if in a bull market we notice a divergence in the maximum peaks, we have a sell signal (there is

therefore the possibility of a trend reversal.) If instead it is produced by combining the minimum peaks we have a buy signal.

More technically, we should then distinguish the actual divergences (two increasing peaks in the direction of the trend on the price chart in conjunction with two peaks in the opposite direction to that of the trend traced by the oscillator) from the hidden ones (in which the logic is reversed so the peaks expressed by the price are in the opposite direction to that of the trend, while the oscillator behaves in the opposite way.) In the following graph, however, we will analyze only the classic divergences, while we will deal better with hidden divergences in the paragraph dedicated to MACD. The RSI, in principle, offers us the best trading signals through the divergences that occur in the vicinity of the oversold and overbought ranges; such signals are more solid when they emerge on larger TFs.

A bullish divergence, for example, built on a chart with a one-week TF in a strong oversold situation and near solid support, is almost always a good time to open a long position. The more signals we have that push us to buy, the more naturally we will be prepared to open a position. To simplify all this reasoning, below we graphically illustrate the functioning of two classic divergences (the first bullish and the second bearish); what we see in the green box is that the price on the chart marks three new consecutive lows while the RSI at those lows is rising (all of this is graphically expressed by the red line.)

As soon as the price breaks, the resistance begins to grow and undergo an increase of about 30%. Immediately after, however, in the black box, we notice that a bearish divergence is formed. On the chart, the price marks two new highs, but the line that joins the respective peaks on the RSI (highlighted in red) is clearly descending.

This time, the support is broken and the price starts to fall. In a trader's operations, the orange circles represent the moment in which it would have been advisable to open the position (the first two) and close it (the last two) to optimize profit and reduce any risks. This type of strategy is not infallible, so by working exclusively with the divergences produced by the RSI we will inevitably end up even getting into some bad situations.

MOBILE MEDIA

What we must always have in mind when trading is that each chart offers us all kinds of signals, and it is up to us to interpret them correctly by making the different evaluations of the case. When we collect a signal using the RSI, we should go in search of confirmations using different tools to make sure that these also provide us with positive indications.

We have among the most useful and simplest tools to integrate into everyday operations moving averages; these tools only reduce the effect of random peaks by expressing the price trend on the chart in the form of a curve.

There are different types of moving averages; the most commonly used are called simple moving average (SMA or arithmetic average) which assigns the same importance to all the values that the price assumes regardless of whether they are more or less recent, weighted moving average (WMA) which resolves the limit of the SMA by assigning greater relevance to more recent candles , exponential moving average (EMA) which assigns an exponentially increasing value to the most recent price values, and adaptive moving average, which introduces the analysis of volumes in the calculation necessary to produce the curve that expresses the price trend. Regardless of the type of moving average, the curve that will be represented by the graph will have different appearance depending on the "period" that we will have set; a 12-period moving average, for example, indicates

that each point plotted by the curve represents the average of the last 12 candles.

Moving averages are therefore defined as "fast" and "slow" as the reference period increases. In this way, a 12 period moving average (based on the last 12 candles) is considered a fast moving average and a 26 period average (based on the last 26 candles) is considered slow.

Moving averages are important precisely because we can create multiple moving averages with different periods by receiving different indications; in general, the periods most commonly used in technical analysis to plot moving averages are 20-50-100, especially as regards the exponential moving average (which is the one that traders normally use the most.) These tools offer us a quick and immediate glance on the market; when the price is above a moving average the trend is for example considered bullish (on the contrary if it is below it is considered bearish.) The trend is also considered as the more marked the higher the period of the moving average above which the price stands.

This is because the moving averages also represent values of supports and resistances; the more solid, the greater the period used to build the moving average itself. Another very useful indication that the moving averages gives us is the way they intertwine, which tells us a lot about the future course of the trend. Normally when a faster moving average trims up a slower moving average, that is the time to buy; on the contrary, the cut down is the time to sell.

Let's try to observe everything we said on a chart (precisely a 1D chart of the BTC/XRP pair.) Here we have plotted three exponential moving averages at 20 periods (red curve,) 50 periods (blue curve,) and 100 periods (black curve) and highlighted (in green and black) two particular moments in the history of the price trend. Let's look at the first green rectangle; here at a certain point we clearly see the fast moving average (the 20-period one, colored red) cutting up the two slower moving averages. The price immediately falls back, uses one of the slower moving averages as support, and enters a markedly bullish cycle. In the second green box, we see the same dynamics with the price that first marks a big rise and then uses the slower moving average as support and returns to test the same resistance it had tested with the first rise. The development of the situation that we see unfolding in the green box is that either the price will break the short-term resistance (orange line) to then go and test the long-term one again (yellow line) or it will break the three supports represented by the three moving averages and it will fall back into the area of the last low (purple line) where in all likelihood it will either attempt a rebound or begin to build a divergence.

In the black squares we observe the same dynamics, but in reverse; in the first black box we can

observe how the fast moving average cuts down the two slower moving averages one after the other with the price that once passed below it will begin to test the EMA100 (exponential

moving average at 100 periods, the black curve in our chart) exactly as if it were a resistance.

In the second black box, the same scenario is repeated but with less vigor; the price seems to be trying to gather around the moving averages but in the end the bearish cycle prevails and the price touches its minimum peak. Moving averages in general and exponential averages in particular are extremely useful in traders' operations, and if integrated into a broader strategy, they provide us with important indications on the possible future trend of the price.

MACD

In the previous chapters, we started introducing the use of tools that should never be missing in a trader's toolbox. This small overview will cover another key tool, the MACD ("Moving Average Convergence / Divergence.")

The MACD is an indicator considered extremely useful by many traders, who usually integrate it into their operations, built substantially on the basis of data extracted from three different exponential moving averages (at 9, 12 and 26 periods.) One of the main uses of the MACD is to trace differences. Since in the last chapter dedicated to the RSI we dealt with the classic divergences, in this paragraph we will deal specifically with "hidden" divergence. The dynamics with which the divergence is constructed is the same as we have seen previously, so also this time by joining the maximum (or minimum) peaks plotted on the price graph with a straight line, we will notice anomalies (the divergences in fact) with respect to what we notice by tracing lines that instead join the peaks constructed by the MACD. The MACD is useful to us because it allows us to obtain more information on the solidity of the trading signal, when in fact we notice the same divergence both on the RSI and on the MACD. This is to be understood as an additional proof of the validity of the signal; the MACD then gives us another interesting starting point, being in fact graphically represented by the trend of two curves, which are substantially two different exponential moving averages (EMA) normally highlighted with blue or black colors (for the slower moving average, at 26 periods) and with red color (for the fastest moving average,

Therefore, when the faster moving average cuts up, the slower one we have a bullish signal, and when the slower moving average is cut down by the faster, one we have a bearish signal. In any case, as we have done in the other paragraphs, we use an image to fix the main concepts.

This time we took two photographs of the market, highlighting them with rectangles (green and black); in the first case (green rectangle) we see a typical hidden bullish divergence, and in the second case (black rectangle) we always see a typical hidden divergence, but this time bearish.

As we can see, the dynamic is identical to the one we described in the paragraph on the RSI, but this time in the green triangle we see that a new low is not marked, and that the peak stops at a price slightly higher than that reached in the previous minimum so that the line joining the two peaks (colored blue) is ascending. We find our beautiful hidden divergence by joining the minimums constructed by the MACD and obtaining a new line (also drawn in blue) which instead moves in the opposite direction (descending). The final outcome, regardless of whether the divergence is hidden or not, is the same: the price starts to rise and goes to retest the maximum peak reached previously.

In the black rectangle, we are instead witnessing a bearish scenario. Also, this time the second peak fails to overcome the previous one, but stops a little earlier, so much so that the straight line (blue) that we trace by joining the two peaks is

descending; on the MACD, we find our hidden divergence, joining the maximum peaks. In fact, our usual blue line this time is ascending.

THE THE CRYPTOCURRENCIES

In the last few chapters, we have introduced some tools commonly considered essential to start trading. We also explained that there are still many other important tools to know how to use, beyond the scope of this text.

We also had the opportunity to explain that a valid trading strategy does not necessarily have to be extremely complicated, but can be extremely simple as long as it is based on rules. A trading strategy is therefore not limited to the tools used for technical analysis, but also includes all those rules that the trader imposes himself with the aim of managing the pressures in the best possible way.

Let's imagine we bought some coins that we don't really know anything about based on simple technical analysisat a price of $10, and we find ourselves 24 hours later with the same coins which dropped to $8. How would we manage the loss? What would happen is that the doubt of having invested in a dying, useless project or on the usual inevitable package would become an exhausting worm that would push us to sell; perhaps in the middle of a dump, perhaps at the lowest possible price (with the greatest possible damage.) It happens more frequently than you might imagine.

If, on the other hand, we had bought some coins that we know well, having analyzed in detail the project on which we invested our money, then enduring a collapse from $10 to $8 becomes easier. However good a trader can be in technical analysis, without fundamental analysis it becomes difficult to trade cryptocurrencies. We have already had the opportunity to explain that in the stock market, fundamental analysis can be understood as the collection of information by reading the company's financial statements, but it is a pity that when we talk about cryptocurrencies most of the time there is no company at all, let alone a budget.

However, there are factors that we can take into consideration, such as market capitalization (market cap.) By capitalization of a cryptocurrency, we simply mean the total amount that we obtain by multiplying the number of coins in circulation by the value of those coins. Another evaluation that we must make in this sense is then to distinguish the maximum supply (21 million coins, for example, if we are talking about BTC) from that available (circulating.) Today, there are about 17,5 million BTC in circulation, compared to a maximum number of coins that will ever end up on the market equal to 21 million.

The quantity of coins in circulation, in relation to the maximum number of coins that the network has budgeted, is one of the factors that we should study for a new cryptocurrency. For a real fundamental analysis, we should be able to disassemble the code of the open source platform and understand how it is made, how it works, and above all if it is well done. There are not many people who have the skills to do a true fundamental analysis of a blockchain project, who know how to “disassemble”

the platform and understand how it works. Ordinary people, who do not have great computer skills, therefore have other ways to try to understand if we can trust or not.

The very first things that every cryptocurrency trader wants to know when investing his money are about the community (the nodes and users in the network) and the identity of the people involved in developing the project. When we are faced with a coin that is spent by thousands of people every day and processed by its own blockchain through a sufficiently large and decentralized network of nodes, we are already moderately sure that we are dealing with good starting material.

But there are other details that we are interested in knowing, especially in relation to the team of developers that takes care of carrying out the project. Each cryptocurrency should have its own official website, and within the official website there must necessarily be a section in which the leading figures within the community are mentioned. If there is a company or nonprofit behind a project, then figures such as the CEO, department heads, and other executives should also be indicated.

If, on the other hand, behind a project there is neither a company nor a foundation, then on the website there should be a shred of the “about us” section in which the developers are mentioned. What we need to understand is who are the people most exposed in the project: if they are serious people, if they are established, esteemed or not. In short, the more we know the better.

Obviously, even the project led by a good, brilliant, and capable person can end up shipwrecked, and even "famous" people can throw a package at you. But in general, the quality of any project is always closely linked to the quality of the people who take care of it. If we have a decentralized network worthy of the name, with thousands of users who spend that cryptocurrency every day, a team of developers known and respected internationally, we have a whole series of signals that are very useful for building that indispensible trust that.

However, all this is not enough. It is necessary to know the project in more depth, understand how it works, and what kind of opportunities it is capable of offering. To do this, you start by reading a document ("withe paper") that all the teams disseminate and update periodically, in which all the characteristics and peculiarities of the project should be reported, and it should describe in detail how the technology works.

The withe papers should be understood more as advertising brochures than as information documents (after all, no one would ever put pen to paper that their project is useless, does not work or has no future.) From reading them we can still obtain useful information; if a certain currency, for example, uses a consensus protocol that I already know and do not trust, then it will make little sense to invest in that cryptocurrency.

If I find that the ambition of this new coin that I want to invest in is simply to be yet another blockchain-based payment

system, I will probably think that there are older and more reliable coins to keep an eye on, and that I am not interested in investing the my money on what appears to be only the millionth copy of a true innovation.

If again I discover that the platform on which I want to invest, which on paper offers dozens of very interesting services (from the creation of new tokens to the management of smart contract,) is still far behind the other platforms that preside over the same segment of the market, then I will probably be inclined to want to wait a little longer before investing. On the basis of all this information we collect and the different evaluations that each time directly derive from each different information collected, we develop our conviction about a particular project, we define which coins we trust most and which least, with which we feel comfortable operating and which ones we prefer not to deal with.

Of the eight hundred and more cryptocurrencies available on the market (without counting the tokens), it will be enough to isolate twenty of those we like best and concentrate on looking for our trading signals for only those twenty, Even so, we must understand that fundamental analysis is something that must be carried out on a daily basis, and includes all the information and news gathering activity that we have to do practically every day.

Since news moves the market, arriving first on news means taking an advantage over other traders; to do this, there are a series of very useful operations to do, such as follow the developer accounts on social networks, subscribe to the official newsletters, the telegram channel, participate in discussions on

the forums where the community meets. In short, any channel that can provide us with news in advance of other traders must be opened and probed frequently.

Once we have defined a group of cryptocurrencies that we trust, studied their charts, collected information on the technology and the people leading the project, and are ready to intercept any new news and having our own trading strategy made up of precise rules, then we will have all the tools that allow us to trade cryptocurrencies profitably.

6.

MARKET PERSPECTIVES - FUTURE VISIONS

Although the recent bearish cycle has, over the last 12 months, burned a large part of the increases received by the entire sector, the prospects for the world of cryptocurrencies in 2021 and for the following years appear to be decidedly rosy. Contrary to what some might argue, there are already numerous use cases for this technology; the benefits for the community are indisputable, and it would be simply crazy to think that all this can return to the magician's cylinder and simply disappear into nothingness.

The banks themselves, on the other hand, are making no secret of wanting to explore the potential offered by the blockchain, as it is becoming increasingly clear that the crypto market is here to stay. Paradoxically, not even a couple of days ago I was reading yet another article in a well-known economic newspaper in which yet another observer on duty compared for the umpteenth time cryptocurrencies to the famous tulip bubble of 1636; all this appears ridiculous, and it is not enough to superimpose a couple of graphs to get out of the embarrassment that making such an absurd statement inevitably entails.

The bubbles, properly called, form in a reasonably short period of time, explode just as quickly, and then never reform again. We

can notice such behavior in coins like BTC (or others, among those with the largest market capitalization) only if we accept to isolate what has happened in the last 15 months and ignore everything else.

If the market, on the other hand, were to prove to be capable of reacting as it did in the past, not only the major currencies appear destined to recover the losses accumulated in 2018, but it even seems plausible that they could reach new historical highs. What we really need to ask ourselves when we decide that we might be interested in investing in cryptocurrencies is whether we think that blockchain technology can gain more and more space in the coming years or not. If we stop for a moment to think about what the world will be like in 10, 15, or 20 years, then it becomes difficult to assume that blockchain and DLT technologies can simply disappear from circulation. These innovations already have all the characteristics necessary to make us understand that they are not destined to disappear at all, but that they will finally establish themselves in the long term. If we think of other technologies of the past that have ended up revolutionizing our present, we realize how much time plays a crucial role when we talk about these topics; the inventor of 3D printers, for example, initially struggled to find someone interested in that technology since it seemed to all cost too much and had few practical applications

Today, however, 3D printers have greatly revolutionized the world of industrial production. The same electric cars that have long been branded as a whim for the rich, commonly considered for many years too expensive and difficult to recharge for them to

spread on the market, today are pointed to by everyone as the future of transportation.

All this seems destined to repeat itself with cryptocurrencies, a technology widely snubbed

by many "experts" on duty who do not seem able to fully understand the revolutionary scope that a technology such as the blockchain carries with it. Therefore, speaking with the detractor of the moment, what we will notice is that our dear friend will inevitably "stick" to the graphs to demonstrate that the price drop is so important that it automatically decrees the death of the market; they will not hear reasons, they will not accept explanations, they will show with absolute certainty all the most disturbing features of the BTCchart, highlighting even the smallest bearish signal to take it right.

What these people have not understood is that normally, those who operate with cryptocurrencies do not care for the price in a moment X. There was a moment, for example, when BTC plunged to $2 after hitting $32. I challenge anyone today not to wish they had bought even a dozen coins for the price of $32; certainly those who bought on that peak had very stressful months later, during which they accumulated painful losses, but those who accepted to play the game in a long-term perspective were able to subsequently take off great satisfaction.

The price, when we talk about cryptocurrencies, is not considered relevant compared to the price we will see in three

years. Since what makes the difference with cryptocurrencies is first of all adoption; that is, it all depends on how many people agree to use this technology. The question we should ask ourselves before any other is if in five years the number of people using BTC will be increased or decreased. The answer to this question, based on what we have seen in the last ten years, clearly appears to be that the number of users is destined to increase. Many of the people I know myself could very well start using this technology in the next ten years.

All this does not mean, of course, that there will be no new collapses, with coins that today have an important capitalization and that could instead in a few years completely disappear from the market. But it is baseless to think that the whole market will disappear. If we look at the number of users, what we understand is that the race in recent years, which has made BTC fly up in price, appears to be a small appetizer in consideration of the still small number of people who use this technology

7.

TOOLS AND ADVICE

Being passionate about cryptocurrencies, regardless of whether you decide to also do trading, implies that you have to start to get assiduously informed about the things that happen in this world. If already in any sector, getting informed has already become a demanding activity; in the cryptocurrency sector, collecting news can become exhausting.

Every day new projects are born, new solutions to old problems arise, and news is spread that we must necessarily follow to inform ourselves adequately. Therefore, we must have clear reference points. First of all, we should get into the perspective of ideas that the big (so-called mainstream) newspapers are not the best source to stay informed when it comes to crypto; very often, in fact, those who write in the big newspapers do so "by contract" are invited to write about a topic in vogue in order to satisfy the demand of users without possessing a background to write about that given topic.

This explains the reason why in the major newspapers we often see glaring mistakes. Over time, fortunately, numerous sites and blogs of an informative/popular nature have been created that

deal exclusively with cryptocurrencies and feature writers who are experts in the field.

For fairness, I prefer to avoid mentioning these sites; anyone can still easily do an online search and select those four or five sites, commonly considered credible by the whole community, through which to get information. After all, a person who loves football buys a sports newspaper to get information, not one that deals with politics and news. In the same way, if you want to get serious information about cryptocurrencies, you should not read the economic newspapers, but rely on specialized sites who have been dealing with this topic for years now and who make use of the collaboration of people who have studied this technology.

In any case, the main point of reference for the community that works with cryptocurrencies is the Bitcointalk forum, on which you can find all kinds of information and a solution to any type of problem. The community is always very proactive and attentive to helping novice users, provided of course that newbies demonstrate their commitment, actively seeking the information they need, avoiding the famous "ready-to-eat" meal.

For information on coins and tokens on the market, to know the addresses of official websites, information on the supply and on exchanges that allow you to operate with a specific currency, the reference point for the whole community is Coinmarketcap. To get information on technical news, new releases planned, recent technical developments, any expected hard forks and any other purely technical information, it is very common to use a site called Coinmarketcal, much appreciated by traders.

Sites such as Reddit are still very popular with cryptocurrency enthusiasts, and each project normally has its own page on this site. Then there are obviously newsletters and the official communication channels of the various currencies. Social media are also important, so as well as follow the official accounts of the various projects we must also start following the individual developers who often have the opportunity to share real gems through social media; moreover, nowadays it has become very common for traders to share their operations through social networks.The advice, therefore, especially for those who want to trade, is to select a group of trusted traders (based on the quality of the analyzes they are capable of producing) and follow them on the various social networks, trying to understand their trading strategy. By assuming all these small we will slowly begin to orient ourselves by finding figures who represent a point of reference for us, of which we have full confidence, and who will allow us to optimize the little time we have available to be able to inform ourselves.

CONCLUSIONS

We have reached the end of our journey into the world of blockchain technology, and it is time to sum up this path. Obviously, a reading of such a text is not enough to build a deep knowledge of this type of technology, but it should still allow anyone, regardless of their technical skills, to start a path of greater understanding on the basics of trading cryptocurrency.

Knowing briefly how blockchain technology works does not mean knowing the market. You will frequently hear that all the "altcoins" are nothing more than clones of BTC, but this is not the case at all, and to know a specific cryptocurrency you must first study it.

Since the consensus protocols are different, the hash algorithms are different, and the characteristics of the network are different, consequently it is inevitable that every project ends up having unique peculiarities. In order to be able to say that you truly understand the blockchain, therefore, it is inevitable that you have to dedicate some time to an in-depth study of the major cryptocurrencies on the market. In any case, this time will not be wasted, since in the coming years this technology will likely have a heavy impact on our daily lives, redesigning the world as we know it, like the birth of the internet in the 1990s.

Anyone, therefore, who has ever found himself thinking with regret about the birth of the internet, regretting not having been able to immediately seize the opportunities that this new technology was offering, cannot afford the luxury of missing this train again or he will find himself to regret it bitterly in the coming years. That such an opportunity could return in such a short time after the great internet revolution, frankly, it should be understood as something more unique than rare: a coincidence that we have only very rarely seen happen in the course of human history.

It is true that technological development has now become exponential. It is also true that technology moves much faster than we humans can, but currently there is perhaps only one possible area that could prove capable of impacting so strongly on our daily lives, and it is represented by genetics.

What I am arguing, in other words, is that it is not certain that in the next 50 years the possibility of "riding" a new technology that has been so relevant since its inception will reappear. It is already extraordinary that the same generation has had the opportunity to experience two such epochal moments. It is difficult to imagine that in the coming years there will still be a third opportunity in this sense.

The challenge, at this point, consists more than anything else in the form that we will be able to give to this new technological revolution. If we are able to use this type of technology to make

the world a better place, or if, even at the expense of technology itself, we will continue to repeat the same mistakes over and over again. In any case, all this strictly depends on us and on the choices we will make (as a people, as citizens) in the coming years.

Accepting, as unfortunately seems to be becoming very common, of losing our right to privacy by sacrificing it to the altar of security and legality, in the long run could prove to be a bad choice capable of generating a series of extremely deleterious effects. With consequences that are difficult to imagine today; what will happen, if we have the courage to use this technology to put people and individuals at the center of the world, instead of limiting ourselves to putting them under permanent control only time will tell us,